

THE ECONOMIC INTEGRATION OF IMMIGRANTS: A COMPARATIVE
ANALYSIS OF U.S. STATES

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Abstract

This paper measures the economic integration of immigrant populations in the United States by comparing incomes of native-born and foreign-born individuals across states in years 2005-2016. Whereas previous research on this topic primarily focused on immigrant economic and demographic traits in national or regional studies, this paper compares aggregate data at the state level that incorporates the economic and demographic characteristics of native-born Americans. To that end, this paper proposes the ‘integration ratio’, an economic metric used to compare earnings between immigrant and native median household incomes. Furthermore, this paper highlights the relative success of southern states, which overperform on measures of economic integration relative to other regions in the United States. Results from OLS model give insights into the conditions under which immigrants most effectively economically integrate, and thereby are of interest to policymakers and newly arrived immigrants seeking circumstances most conducive to immigrant integration.

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Introduction

Due to its longstanding history as a destination for people seeking freedom and new opportunities, the United States has often been referred to as a “nation of immigrants.” Today the United States is home to nearly 20% of the world’s immigrant population, and houses the largest share of the global immigrant population by a significant margin.¹ Immigrants are demographically and economically important to the United States; about 14% of the 2015 U.S. population was comprised of immigrants, who accounted for 17% of the U.S. work force.² Given the volume of immigrants in the United States, the historic and cultural importance of immigration in the U.S., and the substantial proportion of immigrants contributing to the U.S. economy, it is of significant importance to policymakers to understand the factors which contribute to the successful economic integration of immigrants. Additionally, at the individual-level, a newly arrived immigrant may find this research instructive in choosing where they have the greatest chance of reaching economic success relative to their local native-born peers.

This paper explores the extent to which immigrants integrate into state-level economies by comparing median household incomes of native-born and foreign-born Americans. Modern political discourse surrounding immigration tends to focus on the areas that have high volumes of immigrants, which are typically historic immigrant neighborhoods and large urban centers. This research, however, focuses on immigration at the state-level, and therefore includes analysis of states with lower rates of immigration that tend to be less studied and whose effectiveness at integrating immigrant populations

¹ "Trends in International Migrant Stock: The 2015 Revision". United Nations Department of Economic and Social Affairs, Population Division. 2015.

² "Immigrants in the United States." American Immigration Council. October 4, 2017.

is often underappreciated. This paper's proposed measurement of immigrant economic integration, the integration ratio, evaluates that West Virginia, a state not well-known for its immigrant population, to be the most effective economic integrator of immigrants.

The results of this research suggest that local economic conditions unique to individual states, as well as characteristics of the local native-born and immigrant populations are important drivers of successful immigrant economic integration. The optimized economic integration model in this paper includes factors such as native-born labor force participation, foreign-born ages and education levels, and industry of employment for immigrants and natives as highly important determinants for economic integration of immigrant populations at the state-level. The final model suggests that immigrant households are most successful when they can fill economic gaps left by their native-born counterparts.

Based on these results, this paper additionally explains why southern U.S. states are more effective at economically integrating their immigrant populations than other regions in the United States. West Virginia's immigrant households, for example, earned an average 22% more than their native-born counterparts from 2005-2016. In this same period, the state-wide average across the country was that immigrant households earned an average of 12% less than their native-born peers. In addition to West Virginia, in only five U.S. states did immigrant households earn a higher median wage than native-born counterparts: Virginia, Mississippi, Michigan, and Louisiana. In regional comparisons, southern states performed best, whereas midwestern states were least effective at economically integrating their immigrant populations.

Notably, states that one might associate with successful immigrant populations, such as California or New York, do not perform as well in comparisons of economic integration by the integration ratio metric, where native-born households significantly out earn their immigrant counterparts. This finding suggests that economic and demographic realities in southern states, such as a less educated native-born population and higher percentage of those out of the workforce, enable immigrants – especially those with higher education levels – to earn more relative to their native-born peers. Indeed, these results suggest that economic and demographic conditions particular to each state are the most important determinants of integration, rather than often-discussed cultural factors that may otherwise be expected.

Literature Review

Scholars have generally concluded that immigration provides a net economic benefit to the United States. The U.S. has historically relied on immigration as a supply of younger, working-age people to meet the labor demands of American companies and industries.³ At the national level, researchers have attempted to understand the pattern of immigrant integration into American society by examining economic earnings. Research overwhelmingly shows that immigrant economic integration is not immediate; native-born Americans generally outperform foreign-born people in the United States by the vast majority of economic indicators, including wages and wealth accumulation.⁴

³ Borjas, George J. *Heaven's door: Immigration policy and the American economy*. Princeton University Press, 2011.

⁴ Bandyopadhyay, Subhayu, and Guerrero Rodrigo. "Comparing Income, Education and Job Data for Immigrants vs. Those Born in US." *The Regional Economist* 25, no. 2 (2017).

U.S. Census data indicates that foreign-born Americans participate in the labor force at a higher rate than native-born Americans but have lower household median incomes and higher rates of poverty.⁵ Research further indicates that native-born households possess an average of 2.3 times more wealth than foreign-born households.⁶ While research suggests that earnings rise for individuals with more “post-immigration experience,” academics reject the notion that earnings eventually converge for all immigrants and suggest that a variety of complex variables must be examined.⁷⁸ Additionally, historic research using Social Security records suggests that immigrant earnings tend not to fully catch up to native-born American earnings.⁹

Factors such as race and national origin have proven to be important indicators of how well immigrant populations economically integrate. When researchers disaggregate data by race, they find that immigrants reach wage parity with their native racial counterparts in the U.S.¹⁰¹¹ On this basis, studies have shown that Asian and White foreign-born Americans earn relatively more than other immigrant populations because

⁵ Trevelyan, Edward, Christine Gambino, Thomas Gryn, Luke Larsen, Yesenia Acosta, Elizabeth Grieco, Darryl Harris, and Nathan Walters. "Characteristics of the US population by generational status: 2013." US Government Printing Office, Washington, DC (2016).

⁶ Cobb-Clark, Deborah A., and Vincent A. Hildebrand. "The wealth and asset holdings of US-born and foreign-born households: Evidence from sipp data." *Review of Income and Wealth* 52, no. 1 (2006): 17 - 42.

⁷ Chiswick, Barry R. "The effect of Americanization on the earnings of foreign-born men." *Journal of political Economy* 86, no. 5 (1978): 897-921.

⁸ Borjas, George J. "The economics of immigration." *Journal of Economic Literature* 32, no. 4 (1994): 1667.

⁹ Darren Lubotsky, "Chutes or Ladders? A Longitudinal Analysis of Immigrant Earnings," *Journal of Political Economy* 115, no. 5 (October 2007): 820-867.

¹⁰ Hao, Lingxin. "Wealth of Immigrant and Native-Born Americans." *International Migration Review* 38, no. 2 (2004): 518-546.

¹¹ Chiswick, Barry R. "The effect of Americanization on the earnings of foreign-born men." *Journal of political Economy* 86, no. 5 (1978): 897-921.

their native-born counterparts earn more than other racial groups.¹²¹³ Conversely, research indicates that economic integration for Hispanic immigrants conforms to Hispanic native-born Americans, who earn less on average than their White or Asian counterparts. Given these racialized trends, it is more difficult for immigrants to close the wage gap on balance because fewer White and Asian people immigrate to the U.S. compared to other racial groups. An additional possible casual factor for this may be the large share of undocumented Mexican immigrants, who make up the largest Hispanic-origin group. The majority of Mexican immigrants currently present in the United States are undocumented, which is estimated to account for up to an additional 17% wage gap between documented and undocumented Mexican workers.¹⁴

Another important factor in the economic integration discussion is educational attainment. Research has indicated that 28% of foreign-born people do not have a high school diploma compared to 9% of individuals born in the United States.¹⁵¹⁶ On the other hand, 12% of foreign-born individuals have graduate degrees, compared to 10% of natives. These statistics may be explained by the fact that the U.S. provides easier access to education in public schools compared to developing nations and that individuals with less education may have a lower opportunity cost associated with migration. Studies have further expanded that there is an asymmetry between perceived qualifications of native-

¹² Ibid.

¹³ Trevelyan, Edward, Christine Gambino, Thomas Gryn, Luke Larsen, Yesenia Acosta, Elizabeth Grieco, Darryl Harris, and Nathan Walters. "Characteristics of the US population by generational status: 2013." US Government Printing Office, Washington, DC (2016).

¹⁴ Hall, M., Greenman, E., and Farkas, G. (2010). Legal status and wage disparities for Mexican immigrants. *Social Forces*, 89(2), 491-513.

¹⁵ Trevelyan, Edward, Christine Gambino, Thomas Gryn, Luke Larsen, Yesenia Acosta, Elizabeth Grieco, Darryl Harris, and Nathan Walters. "Characteristics of the US population by generational status: 2013." US Government Printing Office, Washington, DC (2016).

¹⁶ Bandyopadhyay, Subhayu, and Guerrero Rodrigo. "Comparing Income, Education and Job Data for Immigrants vs. Those Born in US." *The Regional Economist* 25, no. 2 (2017).

born people and immigrants; even if a foreign-born individual has the same level of educational attainment, they do not necessarily earn as much as a native-born person.¹⁷

In addition to studying the country level, significant work has compared economic integration performance within regions and metropolitan areas. Past research has, for example, investigated the level of resilience in immigrant economic integration in major metropolitan areas following the economic shocks of the Great Recession. Notably, they found that metropolitan areas with greater spatial segregation or high linguistic barriers between immigrants and non-immigrants had lower levels of economic integration following the recession.¹⁸ From these findings, researchers extrapolated that more concentrated immigrant neighborhoods inhibit immigrants' occupational choice and lower economic integration, particularly in instances of high manufacturing employment. These low levels of integration and high reliance on a single employment sector can leave some immigrants in metropolitan areas particularly vulnerable to widespread economic shocks.

Research focused on immigrant entry date into the United States also underscores the impact of entry time on economic integration success.¹⁹ Today's immigrants to the U.S. are greater economic contributors than they were two decades ago – both in terms of economic product and labor force participation. Over the past 20 years, foreign-born individuals have grown from 11% to account for 16% of the U.S. labor force.

¹⁷ Blau, Francine D., and Lawrence M. Kahn. "Immigration and the Distribution of Incomes." In *Handbook of the economics of international migration*, vol. 1, pp. 793-843. North-Holland, 2015.

¹⁸ T. William Lester & Mai Thi Nguyen (2016) The Economic Integration of Immigrants and Regional Resilience, *Journal of Urban Affairs*, 38:1, 42-60, DOI: 10.1111/juaf.12205

¹⁹ National Academies of Sciences, Engineering, and Medicine. 2017. *The Economic and Fiscal Consequences of Immigration*. Washington, DC: The National Academies Press.

Furthermore, it is projected that future net workforce growth in the U.S. will be predominantly accounted for by immigrants and their descendants. Building on the historical significance of immigration to the U.S. economy, today's foreign-born people are higher contributors than in the past and will likely continue to improve integration statistics in the future.

Previous research has also studied trends in economic integration based on industry and occupation over time and generation of immigrant. Compared to the native-born population, immigrants have a more varied set of skills, including both highly educated individuals as well as those with very little schooling. A study of immigrant occupations revealed that immigrants are disproportionately concentrated in science, technology, engineering, and health fields. An analysis over time suggests that these workers are continuing to grow in importance as the baby boomer generation enters retirement age. This research additionally finds that the least-educated immigrant men have an employment advantage relative to comparable native-born men, suggesting that they too fill an important niche role in the economy.²⁰

Much of this existing research focuses on individual-level, nation-level, or metropolitan-level data analysis. Absent from analyses of American economic integration of immigrants is how successful individual U.S. states are at integrating immigrant populations. This likely results from a historic pattern of U.S. immigrants residing in a few large, metropolitan areas within a handful of states. However, this has led scholarly research to under analyze immigrant populations living in more rural and low immigrant

²⁰ National Academies of Sciences, Engineering, and Medicine. 2015. *The Integration of Immigrants into American Society*. Washington, DC: The National Academies Press.

dense environments. This gap is particularly noteworthy as geographic patterns of immigration are changing as immigrant families are settling in non-traditional states; in the past two decades Arkansas, Georgia, Kentucky, Nevada, North Carolina, South Carolina, and Tennessee each experienced immigrant growth rates over 300%.²¹ While these states had low immigrant rates to start, this is a notable shift from the more traditional immigrant gateways such as California, Florida, New Jersey, and New York where immigrants comprise about 20% of the state's population. This paper seeks to address this knowledge gap by understanding what economic conditions are conducive to immigrants reaching wage parity or better with native-born peers at the state level.

Data and Methods

This analysis leverages the U.S. Census American Community Survey (ACS) 5-Year Estimates of "Selected Characteristics of the Native and Foreign-born Populations" covering 2005-2016.²² The full implementation of ACS began in 2005, when it sampled 2.9 million housing units, and has steadily increased its sampling since, resulting in approximately 3.5 million housing units sampled in 2016.²³ The goal of this research is to better understand the economic situations of both native-born and immigrant, also referred to as foreign-born, populations in the United States.²⁴

To compare earnings of native-born and foreign-born households, this paper proposes the "integration ratio," defined by two variables extracted from ACS data:

²¹ National Academies of Sciences, Engineering, and Medicine. 2017. *The Economic and Fiscal Consequences of Immigration*. Washington, DC: The National Academies Press.

²² U.S. Census Bureau, 2009-2016 American Community Survey 5-Year Estimates

²³ U.S. Census Bureau "American Community Survey (ACS)." Sample Size Definitions. July 21, 2017.

²⁴ U.S. Census Bureau. "Foreign Born." About This Topic. July 6, 2016.

native-born household median income divided by foreign-born household median income. The integration ratio is displayed in Equation 1 below.

Equation 1. Integration ratio

$$\text{Integration Ratio} = \frac{\text{Native} - \text{born household median income}}{\text{Foreign} - \text{born household median income}}$$

To most accurately reflect economic and demographic trends in immigrant and native-born populations irrespective of geographic flux, ACS household income data was aggregated over 11 years to produce a single set of averaged information utilized throughout the paper. This data set was then used to calculate the integration ratio for each state and as a dependent variable in subsequent modeling. Averaging across years helped to mitigate against potentially significant outliers in single years for states with higher variance while not having a major effect on states with low variance. The average variance in integration ratio over this 11-year period was 5% but was under 2% for the majority of states. Variance was highest among states that have smaller immigrant populations, which reinforced the necessity to average values over time.

Focusing on the household median incomes rather than individual earners enabled a more complete view of the earning landscape, since measurements of households include all individuals residing in the household, including non-earning dependents. The nativity status of a household, as defined by the U.S. Census, is determined by the nativity status of the householder, the person or group of people by whom the home is owned, being bought, or rented.²⁵ This potentially leads to mixed status households,

²⁵ Grieco, Elizabeth M., Yesenia D. Acosta, G. Patricia De La Cruz, Christine Gambino, Thomas Gryn, Luke J. Larsen, Edward N. Trevelyan, and Nathan P. Walters. *The Foreign-Born Population in the United*

which have both immigrants and native-born individuals living in them, to be categorized in a way that does fully capture differences between foreign-born and native-born earnings. However, there is no mixed status household variable available on the U.S. Census. Additionally, the U.S. Census may be undercounting immigrant groups, especially undocumented immigrants. Immigrants are less likely to speak English, more likely to be staying in temporary living arrangements, and less likely to respond to surveys. These challenges are likely exacerbated among undocumented immigrants.

In order to understand why the integration ratio varied between U.S. states, independent variables inspired by current academic literature, including work-force participation, industry, education, race, and age, were sourced from ACS data and were tested against the integration ratio. To identify the variables statistically relevant and significantly correlated with the integration ratio, each variable in the ACS dataset was run through a Python script to build a linear regression model of independent variables that explain the behavior of the integration ratio.²⁶ Variables identified as statistically significant and that increased the model's total r-squared value were retained and compiled into a final model while insignificant variables were not incorporated. The final model is comprised of the ten statistically significant independent variables that most completely explain the behavior of the integration ratio.

The final model optimizes for total effect on the integration ratio, statistical significance, and total number of variables. The variables in the final model include both

States: 2010. Washington, D.C.: U.S. Dept. of Commerce, Economics and Statistics Administration, U.S. Census Bureau, 2012.

²⁶ Seabold, Skipper, and Josef Perktold. "Statsmodels: Econometric and statistical modeling with python." *Proceedings of the 9th Python in Science Conference*. 2010.

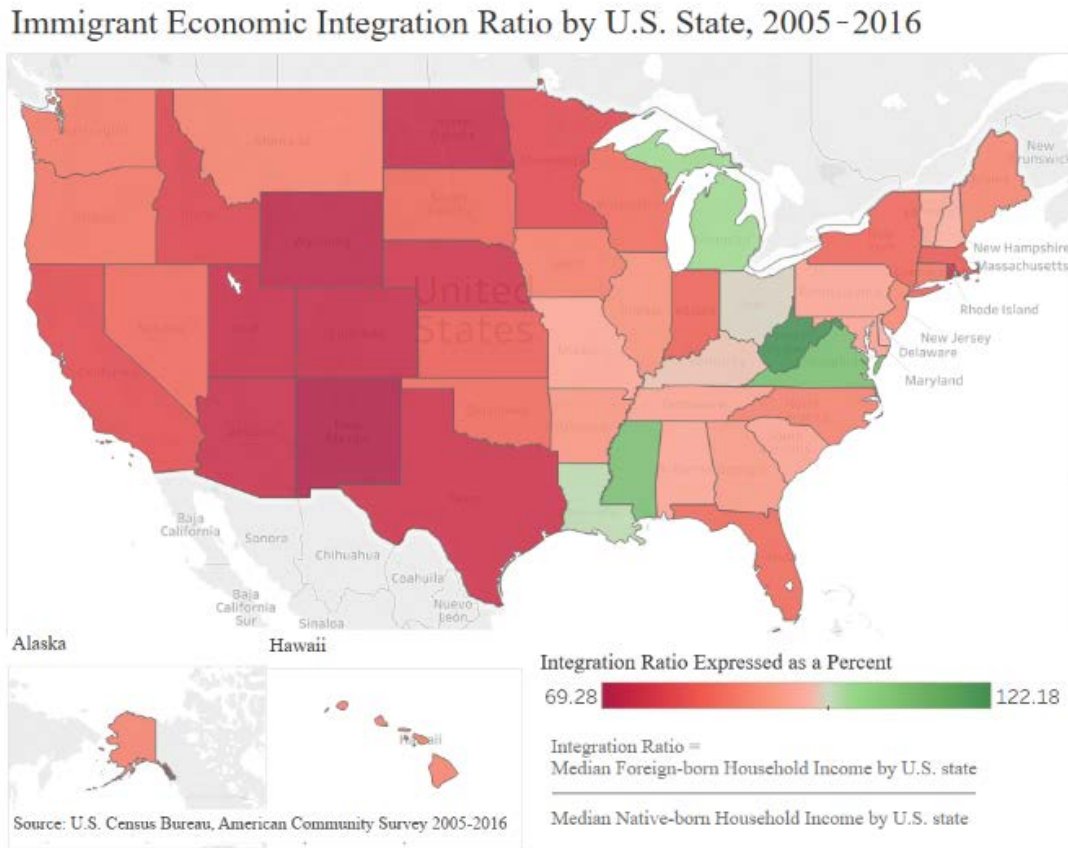
native-born population variables and immigrant population variables to understand how characteristics of both populations affect economic outcomes for immigrants at the state level.

This method for optimizing the final model led to the inclusion of certain variables and seeming omission of others in the same category. For example, the only race-related variable in the final model is the percentage of the immigrant population in each U.S. state that is Asian. One might also expect the model to incorporate a variable that describes the Hispanic immigrant population due to the large amount of Hispanic immigrants, or the percentage of White native-born population given the high volume of native-born white Americans. However, these and other variables were intentionally excluded because they did not retain statistical significance at the 5% level when incorporated into the final model. This model was intentionally designed to prioritize the most impactful and statistically significant measures of economic integration measured by the integration ratio and therefore excludes some work-force participation, industry, education, race, and age variables from the final model.

Results

The integration ratio, referenced above in Equation 1, was calculated for each state using 2005-2016 ACS U.S. Census data. Figure 1 below is a map representation of the integration ratio in each state. An integration ratio of 100 represents wage parity between immigrant and native-born median household incomes. A value of less than 100 demonstrates immigrant household wages lagging behind native-born wages, and a value over 100 represents immigrant household wages outperforming native-born wages.

Figure 1. Geographic representation of integration ratio by state.



Several important observations about immigrant economic integration are reflected in this map. In the vast majority of U.S. states, immigrant households earn less money than their native-born counterparts. Only in West Virginia, Virginia, Mississippi, Michigan, and Louisiana were the median income for immigrant households higher than median incomes in native-born households for years 2005-2016.

In addition to the five states listed above, the following 9 states had an integration ratio of 95 to 100, indicating that the compared household incomes had virtual wage parity: Ohio, Kentucky, Delaware, New Hampshire, Vermont, Missouri, Pennsylvania, Alabama, and Maryland. In total, these results indicate that in 14 U.S. states, immigrant

households earned essentially the same wage or better wages as native-born households in years 2005-2016, indicating successful economic integration. In the remaining 36 U.S. states, however, immigrant households earned less than their native-born counterparts. The average integration ratio among states, when all are counted equally, is 88. A comprehensive list of each state and its corresponding integration ratio is available below in Table 1.

Table 1. Integration ratio by state in tabular format

State	Integration Ratio	State	Integration Ratio	State	Integration Ratio
West Virginia	122	Arkansas	92	New York	84
Virginia	110	Illinois	91	South Dakota	84
Mississippi	110	New Jersey	90	Indiana	83
Michigan	103	Maine	89	Kansas	82
Louisiana	101	Hawaii	89	Massachusetts	82
Ohio	100	North Carolina	88	California	79
Kentucky	98	Alaska	88	Minnesota	79
Delaware	97	Montana	88	Idaho	78
New Hampshire	97	Average	88	Nebraska	75
Vermont	95	Iowa	88	Rhode Island	75
Missouri	95	Washington	87	Texas	74
Pennsylvania	95	Connecticut	87	Arizona	74
Alabama	95	Oregon	86	Utah	73
Maryland	95	Wisconsin	85	North Dakota	73
South Carolina	94	Florida	85	Colorado	73
Tennessee	94	Oklahoma	84	Wyoming	71
Georgia	93	Nevada	84	New Mexico	69

Many of the states most successful at economically integrating immigrants are regionally located in the southern United States. Table 2 below displays the average

integration ratio for each region of the United States, using U.S. Census Bureau divisions.²⁷

Table 2. Regional comparison of average integration ratio

Region	Average Integration Ratio
South ²⁸	96
Northeast ²⁹	88
Midwest ³⁰	86
West ³¹	80

Although the southern U.S. states are not well known for their immigrant populations, these results indicate that an immigrant household living in the south has the best chance of earning a wage at parity or better with their native-born peers.

State-level Variables Contributing to Economic Integration

As indicated by Figure 1, the integration ratio varies significantly across states. The multivariate model constructed to explain these differences draws on variables includes the following categories of variables: work force participation, industry, education, race, and age. The model includes variables that are tied to both immigrant

²⁷ U.S. Census Bureau. "Geographic Terms and Concepts - Census Divisions and Census Regions." Census Regions.

²⁸ Delaware, Florida, Georgia, Maryland, South Carolina, North Carolina, Virginia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, Texas (DC excluded)

²⁹ Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, Pennsylvania

³⁰ Indiana, Illinois, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota

³¹ Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada, Wyoming, Alaska, California, Hawaii, Oregon, Washington

and native-foreign populations. A description of each operationalized variable is displayed below in Table 3.

Table 3. Description of variables included in the final model

Variable	Explanation
% of Native Pop - 25 and older: Less than high school graduate	Percentage of the native-born population in a state that is 25 and older and has less than a high school education.
% of Native Pop - 16 and older: Not in labor force	Percentage of the native-born population in a state that is 16 and older and is not in the labor force.
% of Native Pop - Working in: Professional, scientific, and management, and administrative and waste management services	Percentage of the native-born population in a state that works in professional, scientific, and management, and administrative and waste management services.
% of Native Pop - Working in: Wholesale trade	Percentage of the native-born population in a state that works in wholesale trade, which includes professions like wholesale & manufacturing sales representatives and truck drivers. ³²
% of Foreign-born Pop - 25 and older: Bachelor's degree	Percentage of the immigrant population in a state that is 25 and older and has a bachelor's degree.
% of Foreign-born Pop - 25 and older: Graduate/Professional degree	Percentage of the immigrant population in a state that is 25 and older and has a graduate or professional degree.
% of Foreign-born Pop - Working in: Educational services, and health care and social assistance	Percentage of the immigrant population in a state that works in educational services, and health care and social assistance.
% of Foreign-born Pop - Working in: Information	Percentage of the immigrant population in a state that works in information, which includes professions like software developers, telecommunications line installers, and advertising sales agents. ³³
% of Foreign-born Pop - Under 5 years old	Percentage of the immigrant population in a state that is under 5 years old.
% of Foreign-born Pop - Race: Asian	Percentage of the immigrant population that is Asian.

³² Data USA. "Wholesale Trade." ACS (PUMS). U.S. Census Bureau.

³³ Data USA. "Occupations." ACS (PUMS). U.S. Census Bureau.

The regression outputs for the optimized model are displayed below in Table 4. For every 1.0-point increase in the listed independent variable, the associated coefficient represents the effect it will have on the integration ratio, holding all the other variables constant.

Table 4. OLS regression outputs for final model

Independent Variable	Coefficient
Constant	68.5145** (12.864)
% of Native Pop - 25 and older: Less than high school graduate	0.9084* (0.365)
% of Native Pop - 16 and older: Not in labor force	0.8549** (0.284)
% of Native Pop - Working in: Professional, scientific, and management, and administrative and waste management services	-2.6093** (0.591)
% of Native Pop - Working in: Wholesale trade	-7.0952** (2.236)
% of Foreign-born Pop - 25 and older: Bachelor's degree	0.9946* (0.420)
% of Foreign-born Pop - 25 and older: Graduate/Professional degree	1.4806** (0.326)
% of Foreign-born Pop - Working in: Educational services, and health care and social assistance	-0.8336** (0.183)
% of Foreign-born Pop - Working in: Information	5.3448* (2.215)
% of Foreign-born Pop - Under 5 years old	-8.9076* (3.948)
% of Foreign-born Pop - Race: Asian	0.2414** (0.074)
R-squared	0.884

Standard errors are reported in parenthesis. *, ** indicates significance at the 95% and 99% level, respectively.

Interpreting Results – Native Characteristics

This research indicates that the characteristics of the native-born population living in a state have significant implications on how well a state's immigrant population will economically integrate, especially with regards to the work force participation, education, and industry of employment of the native-born population.

Among native-born characteristics, the final model indicates that industry of employment is the most significant variable in determining whether immigrants will successfully economically integrate. Specifically, this model indicates that a one percent increase in the percentage of native-born employees working in professional, scientific, and management, and administrative and waste management services in a state decreases its integration ratio by 2.6. Similarly, a one percent increase in the percentage of native born-employees working in wholesale trade decreases a state's integration ratio by 7.1. Given that these two industry categories are the third and fourth highest earning of the fourteen different industry categories on the Census, higher proportions of native laborers in these categories drive native-born median household incomes significantly higher.³⁴ These results suggest that when native-born populations effectively fill work demand in high-paying or high-skill industries, immigrant populations tend not to reach wage parity.

In addition to industry, a state's ability to economically integrate its immigrant population also depends on the native-born population's education and work force participation. A one percent increase in a state's native born 25 and older population without a high school degree is associated with a .91 increase in the integration ratio.

³⁴ Data USA. "Occupations." ACS (PUMS). U.S. Census Bureau.

This finding indicates that immigrants are able to more effectively integrate into native-born states that are less educated, suggesting they are able to fill education gaps among the native-born population. Similarly, a one percent increase in the percentage of native born people 16 and older not in the labor force leads to a .85 increase in the integration ratio. This finding suggests that immigrants are able to fill the employment gap in states with higher numbers of retired populations or native-born individuals who are not actively looking for work.

Interpreting Results – Immigrant Characteristics

Immigrant characteristics, including education, race, industry, and age also play an important part in influencing the integration ratio among states. Most predictably, a one percent increase in the 25 and older foreign-born population that has a bachelor's degree was associated with a 1-point increase in integration ratio, and a one percent increase in the 25 and older foreign-born population that has a graduate or professional degree was associated with a 1.5-point increase in integration ratio. Higher levels of education enable individuals to compete for higher wage jobs, so the connection between a stronger integration ratio and a more educated immigrant population is fairly intuitive.

Similar to the discussion on native-born industry participation, immigrant industry participation also effects the integration ratio at the state level. The final model includes immigrant participation from a high paying industry – information – as well as a low paying industry category – educational services, health care, and social assistance. A one percent increase in the percentage of the immigrant population working in the information industry is associated with a 5.3-point increase in the integration ratio. Of the fourteen industries that the Census tracks, the information industry has the second highest

average salary according to 2015 Census data.³⁵ In contrast, a one-percent increase in the immigrant population working in educational services, health care, and social assistance, is associated with a .8 decrease in the integration ratio. Of the 14 industry categories within the Census, educational services, health care, and social assistance industry has the 10th highest average salaries.³⁶ Overall, these results indicate that immigrant economic integration is largely dependent on the types of industries in which they are employed. Filling demand for employment in high-skill and high-wage sectors, like the information industry, enables greater likelihood of successful immigrant economic integration.

The percentage of a foreign-born population that is Asian is the single race-related variable in the model, and also the variable with the lowest impact on the integration ratio. A one percent increase in the percentage of the immigrant population within a state being Asian is associated with a .24-point increase in the integration ratio. This finding supports assertions in previous research that suggests immigrant earnings are consistent with the economic earnings of their racial native-born peers, and therefore having a higher percentage of Asian immigrants was advantageous in improving the integration ratio as Asian households have the highest median incomes of all racial groups in the U.S.³⁷ The other race-related variables did not have statistically significant effects on the integration ratio.

The single variable with the most significant economic impact is the percentage of the foreign-born population in a state that is under 5 years old. A one percent increase in

³⁵ Data USA. "Information." ACS (PUMS). U.S. Census Bureau.

³⁶ Data USA. "Educational Services, Health Care & Social Assistance." ACS (PUMS). U.S. Census Bureau.

³⁷ : U.S. Census Bureau, Current Population Survey, 1968 to 2017 Annual Social and Economic Supplements.

the percentage of the total immigrant population that is under 5 years old is associated with a 9-point drop in the integration ratio. Children under 5 are not economic contributors to immigrant households, and indeed likely detract from the householders(s) ability to earn a higher income.

Conclusion

This research has explored the economic integration of immigrants at the state level in the years 2005-2016 through the use of Census ACS data. To define and measure economic integration of immigrants, this research introduced the integration ratio, which is derived by dividing median foreign-born household income into median native-born income. The creation of the integration ratio enabled effective comparisons between states to find those most successful in economically integrating their immigrant populations.

In a comparison of all U.S. regions, this research suggests that the southern states are most effective at economically integrating their immigrant populations. This result may seem counterintuitive given that the southern states have fewer total immigrants than the northeast or western regions of the United States. However, the results suggest that the combination of certain characteristics of the native-born workforce, such as lower workforce participation and less education, coupled with a more educated immigrant population working in higher earning industries lead to this effect. Furthermore, the total percentage of immigrants residing in a state was not incorporated in the model because it did not have a statistically significant effect on the integration ratio. Rather than large immigrant communities or immigrant-friendly policies, native- and foreign-born economic and demographic variables lead to cases such as West Virginia, in which

immigrants only comprise about 1.6% of the state's population, to have the highest integration ratio in the country.³⁸ Immigrant households in West Virginia earn 22% more than native-born households. The only other 4 states where immigrant households earn more than their native-born counterparts are Virginia, Mississippi, Michigan, and Louisiana.

Taken together, these results indicate that economic integration, as defined by immigrant earnings relative to native-born earnings are largely shaped by the economic and demographic realities in states. Immigrant households are most successful in economically integrating when they can fill economic gaps left by their native-born counterparts. In this respect, the modern political discourse surrounding immigration undervalues the southern states ability to economically integrate their immigrant populations.

Understanding how the characteristics of immigrant and native-born populations contribute to economic outcomes is an important consideration for immigration policymaking purposes. These findings could be used to inform government officials, particularly at the state-level, on how to organize resources surrounding immigration to construct conducive pathways for successful economic integration and therefore greater economic contribution. These findings may also support the ongoing discussion on immigrant integration, as they serve to underscore the relevance of economic factors. Lastly, the development of the integration ratio as a metric for comparing economic integration could be used in the immigration research community in future contexts,

³⁸ "Immigrants in West Virginia." American Immigration Council. October 6, 2017.

including at the local, metropolitan, national, and international levels to do a range of comparisons on relative effectiveness of immigrant economic integration.

With these conclusions, it is also important to acknowledge the limitations of this research. This paper is based on the American Community Survey 5-year estimate as part of the larger U.S. Census. As with many surveys, it is possible for respondents to accidentally or intentionally misrepresent information, such as their nativity status, or for a survey to be constrained by the number of responses in a low immigrant area. This paper attempted to mitigate adverse effects of survey inconsistency by averaging multiple years together. While this method did mitigate against high data variance, it does potentially oversimplify the data.

The final model produced a high r-squared value; however, it could be expanded in the future to incorporate additional data beyond the ACS dataset. Additionally, it remains unclear why some industries are so strongly correlated with the integration ratio, such as referenced information industry, while others do not reach the threshold of statistical significance. Although the discussion arounds these variables suggests that it may be a question of earnings, it is also likely that some industries may be extremely state-dependent and therefore difficult to incorporate in an analysis that spans across all states.

Looking ahead, there remains much to explore in how immigrants will continue to shape the economy of the United States. Future analysis may incorporate projections of how one might expect the demographic characteristics of individual states, or the country at large, to change and therefore make predictions about how the economic integration of immigrants might change. An additional area of interest might be using the integration

ratio metric to study how the United States at large integrates its immigrant population relative to the rest of the world. Both the Organisation for Economic Co-operation and Development (OECD) and the European Union (EU) publish economic statistics related to their immigrant populations. Using the integration ratio as a measure, one could study the effectiveness of the United States' ability to economically integrate its immigrant population relative to its peers.

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Curriculum Vitae

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